



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

PRELIMINARY ISSUE

654.6513

Job Sheet 211702



Part No: 654.6513

Job Qty: 2 pcs

Part Name: Diffuser Cap -10



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 7/24/20

Job Tracking No:

Created By: Jennifer Renwick

Due Date: 7/31/20

Type: SOLD

Description:

Note: 654.6500 REV.PR2 IPP REV:A 20.07.21 NEW ISSUE DD VERF:JFS

Ship Via:

139 Valve

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard	Workcenter/Supplier	Sign-off	
					Setup Hrs	Run Hrs	Workcenter / Supplier Lead Time	
100	SL-154 - 1	2 pcs	7/31/20		1.00	0.67	Doosan - 1	
							NLX 2500SY - 1	
							SL-154 - 1	
							SL-2500Y - 1	
110	QC 2	2 pcs	7/31/20		0.00	0.00	QC 2 - 1	
							QC 2 - 12	
							QC 2 - 14	
							QC 2 - 17	
							QC 2 - 19	
							QC 2 - 2	
							QC 2 - 20	
							QC 2 - 22	
							QC 2 - 23	
							QC 2 - 25	
							QC 2 - 32	
							QC 2 - 33	
							QC 2 - 35	
							QC 2 - 39	
							QC 2 - 4	
							QC 2 - 40	
							QC 2 - 44	
							QC 2 - 45	
							QC 2 - 48	
							QC 2 - 49	
							QC 2 - 50	
							QC 2 - 51	
							QC 2 - 52	
							QC 2 - 57	
							QC 2 - 62	
							QC 2 - 63	
							QC 2 - 8	



Container No: S290147



Part: 654.6513
Job No: 211702
Serial No/Batch: S290147
Revision: REV.PR2
Inspector:
Exp Date:
Instructions:

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkebury, ON K84 1K7
CANADA
TEL.: 1 813 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Date: 07/27/20



Container No: S290147



Part: 654.6513

Job No: 211702

Serial No/Batch: S290147

Revision: REV.PR2

Inspector:

Exp Date:

Instructions:

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL.: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Date: 07/27/20

				QC 2 - 66	
				QC 2 - 64	
				QC 2 - 65	
				QC 2 - 5	
				QC 2 - 71	
				QC 2 - 73	
				QC 2 - 69	
				QC 2 - 76	
				QC 2 - 86	
				QC 2 - 83	
120	QC 8	2 pcs	7/31/20	0.00 0.00	QC 8 - 12
					QC 8 - 14
					QC 8 - 17
					QC 8 - 20
					QC 8 - 25
					QC 8 - 3
					QC 8 - 32
					QC 8 - 33
					QC 8 - 35
					QC 8 - 39
					QC 8 - 4
					QC 8 - 44
					QC 8 - 45
					QC 8 - 49
					QC 8 - 58
					QC 8 - 8
					QC 8 - 9
					QC 8 - 68
					QC 8 - 67
					QC 8 - 1 (A)
					QC 8 - 47
					QC 8 - 40
					QC 8 - 52
					QC 8 - 23
					QC 8 - 57
					QC 8 - 76
					QC 8 - 61
					QC 8 - 66
					QC 8 - 73
					QC 8 - 82
130	Outsource - 17 - Passivate	2 pcs	7/31/20	0.00 0.00	GR0002
140	Packaging 2-1 - Receive - B4B	2 pcs	7/31/20	0.00 0.00	2020-07-29
					Packaging 2 - 1 - B4B
					Packaging 2 - 2 - B4B
					Packaging 2 - 3 - B4B
					Packaging 2 - 5 - B4B
					Packaging 2 - 4 - B4B
					Packaging 2 - 6 - B4B
					Packaging 2 - 7 - B4B
					Packaging 2 - 8 - B4B
					Packaging 2 - 9 - B4B
					Packaging 2 - 10 - B4B
					Packaging 2 - 11 - B4B
					Packaging 2 - 12 - B4B
					Packaging 2 - 13 - B4B
					Packaging 2 - 14 - B4B
					Packaging 2 - 15 - B4B
					Packaging 2 - 16 - B4B
					Packaging 2 - 17 - B4B
					Packaging 2 - 18 - B4B

					Packaging 2 - 19 - B4B	
					Packaging 2 - 20 - B4B	
					Packaging 2 - 21 - B4B	
					Packaging 2 - 22 - B4B	
					Packaging 2 - 23 - B4B	
					Packaging 2 - 24 - B4B	
					Packaging 2 - 25 - B4B	
					Packaging 2 - 26 - B4B	
					Packaging 2 - 37 - B4B	
					QC 6 - 9	
150 QC 6	2 pcs	7/31/20	0.00 0.00		QC 6 - 68	DAS
					QC 6 - 61	82
					QC 6 - 40	9-89
					QC 6 - 81	
					QC 6 - 82	AUG 17 2020
160 Packaging 3-1 - Stock - B4B	2 pcs	7/31/20	0.00 0.00		Packaging 3 - 1 - B4B	
					Packaging 3 - 2 - B4B	
					Packaging 3 - 3 - B4B	
					Packaging 3 - 4 - B4B	
					Packaging 3 - 5 - B4B	
					Packaging 3 - 6 - B4B	
					Packaging 3 - 7 - B4B	
					Packaging 3 - 8 - B4B	
					Packaging 3 - 9 - B4B	
					Packaging 3 - 10 - B4B	
					Packaging 3 - 11 - B4B	
					Packaging 3 - 12 - B4B	
					Packaging 3 - 13 - B4B	DAS
					Packaging 3 - 14 - B4B	82
					Packaging 3 - 15 - B4B	9-89
					Packaging 3 - 16 - B4B	AUG 17 2020
					Packaging 3 - 17 - B4B	
					Packaging 3 - 18 - B4B	
					Packaging 3 - 19 - B4B	
					Packaging 3 - 20 - B4B	
					Packaging 3 - 21 - B4B	
					Packaging 3 - 22 - B4B	
					Packaging 3 - 23 - B4B	
					Packaging 3 - 24 - B4B	
					Packaging 3 - 25 - B4B	
					Packaging 3 - 26 - B4B	
					Packaging 3 - 37 - B4B	DAS
170 QC 21 - SA	2 pcs	7/31/20	0.00 0.00		QC 21 - SA - 21	21
					QC 21 - SA - 70	9-89
					QC 21 - SA - 9	AUG 18 2020

Part Op 100 - ****CRITICAL PART - EXTREME CARE MUST BE TAKEN**** MUST ENSURE THE COMPONENTS ARE NEVER DAMAGE****
 Descriptions: NEVER DAMAGE**** 1-Machine as per folio FD346 FOLIO REV: PR2 AA DWG REV: PR2 2-Debur

110 - QC2- Inspect parts off machine FAI/FAIB

120 - QC8- Inspect parts - second check

130 - Issue P/O; 46807 PASSIVATE IAW QQ-P-35C, TYPE II -Material type; 303 stainless steel -Certificate of Conformity is required

140 - Certificate of Conformity is required

150 - QC6- All purchased or subcontracted products

160 - Identify as per dwg & Stock ****CRITICAL PART - EXTREME CARE MUST BE TAKEN**** MUST ENSURE THE COMPONENTS ARE NEVER DAMAGE****

170 - QC21- Final Inspection - Work Order Release

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
M303R1.250	303 Round Bar 1.250	.2200 ft (.11 ea)	100-SL-154 - 1	5 165768

Job Allocations				
Operation	Component Part	Required	Inventory	Allocated
100-SL-154 - 1	M303R1.250	0	10	0
Part Specifications				
Specifications could not be found.				

Plex 7/24/20 11:38 AM Dart.Renwick.Jennifer

Entered: _____ Date: _____



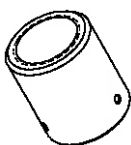
WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

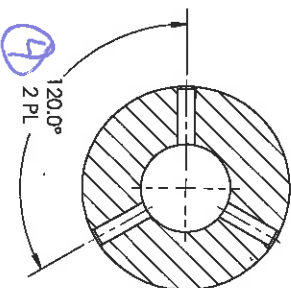
Route update only

Job: _____ Part No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐		DEPARTMENT/PROCESS Skid-tube ☐ Cross tube ☐ Eng. (Non-AW) ☐ Machining ☐ Small Fab ☐ Prod. Eng. Coord. ☐ Large Fab ☐ Finishing ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐				MRB (QS1042)	
Date: _____		Sequence #: _____		QTY Affected: _____		Disposition			
Description Work Order Deviation		Completed By							
Root Cause		Lead hand / Supervisor							
QC / QA Coordinator		Fault Category							
Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐		Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐		Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐		Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread ☐	
Other/Details:		Other/Details:							

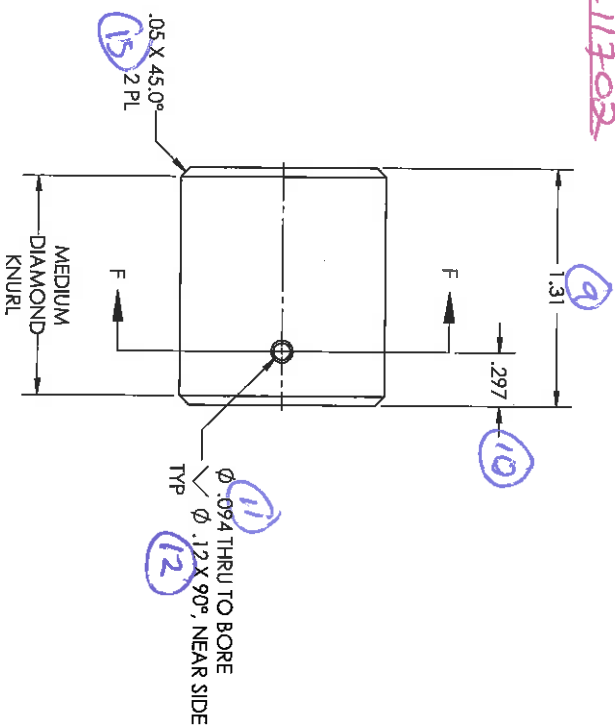
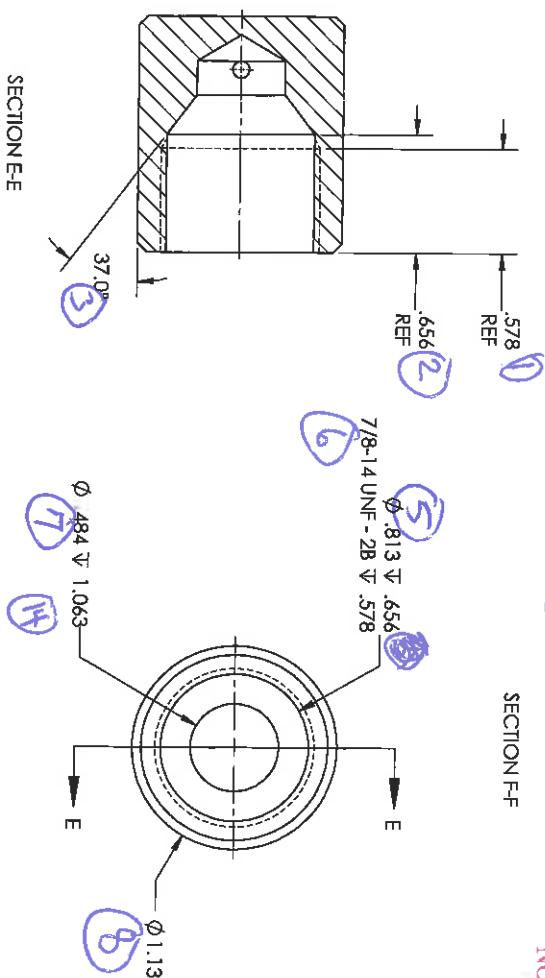
654,6513

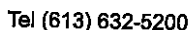


SECTION F-F



SECTION E-E

[illegible]



PURCHASE ORDER
POHB046807



Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Issued By: Guerin, Kimberley
Phone: 613-632-5200 Ext: 298
kguerin@dartaero.com

Special Comments:

Items

**DAS
82
9-89**



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

POHB046807



Items

Line Item	Job	Part	Drawing	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
3	211490	650.6513	650.6500 REV.PB2	Thermal Adapter -Issue P/O; PASSIVATE IAW QQ-P-35C, TYPE II -Material type; 303 stainless steel -Certificate of Conformity is required	Firmed X3	-	8/6/20	3 pcs	0 pcs	3 pcs	\$8.3333/pcs	\$25.00
4	211507	650.7910	650.7900 REV-PA1	Shroud -Issue P/O; PASSIVATE IAW QQ-P-35C, TYPE II -Material type; 303 stainless steel -Certificate of Conformity is required	Firmed X3	-	8/6/20	3 pcs	0 pcs	3 pcs	\$8.3333/pcs	\$25.00
5	210646	650.7710	650.7700 Rev.PF1	Electric Cap -Issue P/O; PASSIVATE IAW QQ-P-35C, TYPE II -Material type; 303 stainless steel -Certificate of Conformity is required	Firmed X2	-	8/6/20	2 pcs	0 pcs	2 pcs	\$8.3333/pcs	\$16.67
Grand Total:												\$100.00

Guerrin



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

POHB046807



Order Notes

Procurement Quality Clauses

A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)

A022 Apical Processing
A024 process certifications
A026 certification of material conformance

A041 quality management system
A042 dart notification by supplier
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 7/30/20 1:09 PM Dart.Guerin.Kimberley



Certificat de Conformité / Certificate of Compliance



0 2 9 9 2 8 1

2455, Rue Halpern | Saint-Laurent | Québec | H4S 1N9
Tel: 514-335-3666 Fax: 514-335-3868
www.groupealtech.com

Bon de Livraison / Packing Slip

029928 - 1

Livré à / Ship to

DART AEROSPACE LTD
1270 ABERDEEN STREET
HAWKESBURY, ON, K6A1K7
CANADA
Tel.: 613-632-5200 Fax.:

Client / Customer:

DART AEROSPACE LTD
1270 ABERDEEN STREET
HAWKESBURY, ON, K6A1K7
CANADA
BUYER:

Date expédition Ship date		Créé Par Generated By		Transport / No de Compte Courier / Acc. No		Bon de commande Client Customer Purchase Order No.			
31-Jul-2020		Ian Wilson				POHB046807			
#Ligne Line#	No. de Série / # Pièce Part Number /Line Item Details	Description pièce(s)	CATG. U/M	Quantités / Quantities					
	Job # / Ref #			Comm. /Ordered	Exp/ Shipped	Qté NC/ NC Qty	Qté Scrap/	À venir/ Back Order	
1	654.6513 Rev.	654.6513 01 -PASSIVATION-NITRIC #4 [PASSIVATION NITRIC #4] QQ-P-35C, TYPE II	PASSIVATION CH	2	2	0	0	0	
2	650.6515 Rev.	650.6515 01 -PASSIVATION-NITRIC #4 [PASSIVATION NITRIC #4] QQ-P-35C, TYPE II	PASSIVATION CH	2	2	0	0	0	
3	650.6513 Rev.	650.6513 01 -PASSIVATION-NITRIC #4 [PASSIVATION NITRIC #4] QQ-P-35C, TYPE II	PASSIVATION CH	3	3	0	0	0	
4	650-7910 Rev.	650-7910 01 -PASSIVATION-NITRIC #4 [PASSIVATION NITRIC #4] QQ-P-35C, TYPE II	PASSIVATION CH	3	3	0	0	0	
5	650.7710 Rev.	650.7710 01 -PASSIVATION-NITRIC #4 [PASSIVATION NITRIC #4] QQ-P-35C, TYPE II	PASSIVATION CH	2	2	0	0	0	

RECEIVED

AUG 05 2020

DART AEROSPACE LTD.

Notes Additionnelles / Additional Notes

Epaisseur réelle
Actual Thickness

Inspecteur Qualité
Quality Inspector

Réçu par
Received By

Nous certifions que les pièces énumérées ci-dessus ont été traitées en conformité avec votre commande et vos spécifications et rencontrent les exigences.
Notre responsabilité financière et légale ne sera pas supérieure au montant de la facture issue.

We hereby certify that the parts listed above have been process in accordance with your purchase order and specifications and are in conformance with your requirements.
Our financial and legal responsibility will not be higher than the amount of invoice.

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M30381.250

PO / BATCH NO.: P0042834 / 5165768

DATE: 10/10/15

MATERIAL CERT REC'D: Yes

THICKNESS ORDERED: 1.250"

QUANTITY RECEIVED: 12.125Kt

THICKNESS RECEIVED: 1.250"

QUANTITY INSPECTED: 12.125Kt

SHEET SIZE ORDERED: —

QUANTITY REJECTED: 0

SHEET SIZE RECEIVED: —

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y ☒	
CORRECT FINISH	☒ N	
CORROSION	☒ ☒	
CORRECT GRAIN DIRECTION	☒ N	
CORRECT MATERIAL PER M-DRAWING	☒ N	ASTM A582 / AMS 5640 ⁶⁰³
CORRECT THICKNESS	☒ N	
PHOTO REQUIRED	Y ☒	
CORRECT REF # TO LINK CERT	☒ N	MT-8476
CORRECT MATERIAL IDENTIFICATION	☒ N	
CORRECT M# ON THE MATERIAL	☒ N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y ☒	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y ☒	

AUG 17 2020

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>DAS 61</u>	SIGNED OFF BY: <u>—</u>
DATE: <u>MAR 25 2019</u>	DATE: <u>—</u>

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

**Castle Metals®**

A. M. Castle & Co.

**PACKING SLIP/
CERTIFICATE OF CONFORMANCE**

Page 1 of 1

Shipment No:3858041

Ship From:		Sold To:	Ship To:	Deliver To:
A. M. CASTLE & CO. 2150 ARGENTIA ROAD MISSISSAUGA, ON L5N 2K7 CAN		DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA	DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CAN	DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA
Date Shipped	F.O.B.	Freight Terms	Carrier	BOL No
21-MAR-19	ORIGIN	Prepaid	MANITOU LIN	3858041-2

Shipment Details

Order No	Line No	Item No	Description
5436419	1	4693	1.2500.RD.303.STAINLESS.CF.ANN.132.0000-156.0000 SPECIFICATIONS: ASTM A582
Purchase Order No	Part Number	Ordered Qty	Invoice Qty
42824		12.00 FT	12.1250 FT
Details			
ALL PAPERWORK MUST FOLLOW ORDER / CUSTOMER MUST RECEIVE AT TIME OF DELIVERY ALL MATERIAL MUST HAVE IDENTIFYING MARKINGS EX:HEAT #S Email P/s and certs to: clavole@dartaero.com END USER: DART AEROSPACE END USE: COMMERCIAL AIRCRAFT PARTS			
Delivery No.	Mill/Source	Heat Number	Mech Id
122605881	NORTH AMERICAN STAINLESS		1
		PCS	Width (IN)
		1	
		Length (IN)	Shipped Qty(LBS)
		145.5000	50.5613

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material not to the correct size or material cut by the customer cannot be returned for credit.

Reviewed by Authorized Castle Metals Representative:

MAR 21 2019

Date:

Name:





North American Stainless Canada Inc.
740 Imperial Road North
Guelph, ON N1K1Z3
Canada

METALLURGICAL TEST REPORT

6870 Highway 42 East
Ghent, KY 41045-9615
(502) 347-6000

Certificate: 420218 3
Customer: 007209 001
Mail To:
CASTLE METALS
2150 ARGENTIA ROAD
MISSISSAUGA, ON L5N 2K7

Ship To:
CASTLE METALS
2150 ARGENTIA ROAD
MISSISSAUGA, ON L5N 2K7

Date: 6/14/2018 Page: 1

Steel: 303

Finish: ST

Corrosion:

Red Ratio: 46.6 :1

Your Order: 41204

NAS Order: PM 0094907 01

Heat Treat Code: 47,446

PRODUCT DESCRIPTION:

Round Bar, Annealed, Smooth Turned, Cold Finished
UNS 30300, ASTM A582 12 EN 10204 3.1, ASTM A484/16
AMS 5640V TYP 1, US-7648 CONDITION A
SOLUTION ANNEAL TEMP 1900F MIN

REMARKS:

COMPLIES W/REQUIREMENTS OF DFAR 252.225-7009 EU DIRECTIVE
2011/65/EU RoHS. EAF+AOD+CC. NO WELD REPAIR. MELTED AND MFG
IN USA FREE FROM MERCURY AND LOW MELTING ALLOY CONTAMINATION

Product ID	Skid #	Diameter	Size	Weight	Length	Mark	Pieces	Commodity Code
B06020 2		1.2500		1.012	144.00	1	1	

ANAB, ISO/IEC 17025, Certificate# L2323

CHEMICAL ANALYSIS

	CH	C %	CO %	CR %	CU %	NI %	MO %	N %	NI %	P %
NAS Heat 847L	US	.035	.10	17.11	.33	1.91	.287	.024	8.55	.033
	S %	SI %								
	.3240	.46								

MECHANICAL PROPERTIES

Product ID	1 d o i c c	HB No.	.2YS KSI	UTS KSI	RA %	Elong % 4D
B06020 8	R L	158.0	44.00	86.00	57.00	47.00



NAS hereby certifies that the analysis on this certification is correct. Based upon the results and the accuracy of the test methods used, the material meets the specifications stated. These results relate only to the items tested and this report cannot be reproduced, except in its entirety, without the written approval of NAS.

Technical
Dept. Mgr.

KRIS LARK

6/14/2018

SPECIFICATION CONTROL DRAWING

Line 1
M303R0.750

PURCHASE MATERIAL: AISI 303 SS ROUND BAR
(NOTE: AISI 304/316 NOT ACCEPTABLE)

SPECIFICATION: ASTM A302
PART NUMBER: M303R0.750

WHERE "D DDD" = DIAMETER IN INCHES
EG. 0.75" ROUND BAR = M303R0.750

RELEASED
H 2010-02-02
MD

B		REFORMAT ORG. ADD SPECS (20 DB-1)	CP	10.01.05
A		NEW ISSUE	DS	01.02.20
REV		DESCRIPTION	BY	DATE
DESIGN				
DRAWN				
CHECKED				
MO-C APPR				
APPROVED				
DE APPR				
DATE	10.01.05			

DART AEROSPACE LTD		REV. B
WARRICK, ONTARIO, CANADA		SHEET 1 OF 1
DRAWING NO.	M303R	SCALE
TITLE	303 ROUND BAR	NTS
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